

CLAIMS

1. A method for measuring the activation of an effector cell belonging to the immune system, which may  
5 or may not be transformed, by means of a monoclonal (MoAb) or polyclonal antibody characterized in that it comprises bringing CD16 receptor-expressing cells into contact in a reaction medium in the presence of the antibody and of the antigen for said antibody, and  
10 measuring the amount of at least one cytokine produced by the CD16 receptor-expressing cell.

2. The method as claimed in claim 1, characterized in that the effector cell is a CD16 receptor-expressing  
15 Jurkat cell.

3. The method as claimed in either of claims 1 and 2, characterized in that at least one cytokine selected from IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8,  
20 IL-9, IL-10, TNFa, TGF $\beta$ , IP10 and IFN $\gamma$  is quantified.

4. The method as claimed in one of claims 1 to 3, characterized in that the interleukin IL-2 is quantified.  
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5. The method as claimed in one of claims 1 to 4, characterized in that the amount of cytokine produced is a marker for activation or for inhibition of effector cells.  
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6. The method as claimed in one of claims 1 to 5, characterized in that the amount of interleukin IL2 secreted reflects the quality of the antibody bound by the CD16 receptor as regards its antigen-binding  
35 integrity (Fc function) and effectiveness (antigenic site).

7. The method as claimed in one of claims 1 to 6,

characterized in that the amount of interleukin IL2 secreted is correlated with an ADCC-type activity.

5 8. A method for evaluating the effectiveness of a monoclonal or polyclonal antibody, characterized in that it comprises bringing CD16 receptor-expressing effector cells of the immune system into contact in a reaction medium in the presence of an antibody and of the antigen for said antibody, and measuring the amount  
10 of at least one cytokine produced by the CD16 receptor-expressing cell.

9. A method for evaluating the ability of a cell to produce an effective monoclonal antibody, characterized  
15 in that it comprises bringing CD16 receptor-expressing effector cells of the immune system, which may or may not be transformed, into contact in a reaction medium in the presence of an antibody and of the antigen for said antibody, and measuring the amount of at least one  
20 cytokine produced by the CD16 receptor-expressing cell.

10. The method as claimed in claim 9, characterized in that the cells producing antibodies are chosen from CHO, YB2/0, human lymphoblastoid cells, insect cells  
25 and murine myeloma cells, or any other expression cell.

11. A method for evaluating the effectiveness and the integrity of polyclonal antibodies after one or more purification steps, characterized in that it comprises  
30 bringing CD16 receptor-expressing effector cells of the immune system, which may or may not be transformed, into contact in a reaction medium in the presence of the purified antibody and of the antigen for said antibody, and measuring the amount of at least one  
35 cytokine produced by the CD16 receptor-expressing cell.

12. The method as claimed in one of claims 1 to 11, characterized in that the antibodies for which an increase of more than 100%, 250%, 500% or 1000% in the

amount of IL-2 release by CD16-expressing cells is observed compared with the control in the absence of antibody, or in the presence of a given antibody as negative reference, are selected.

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13. The method as claimed in one of claims 1 to 12, characterized in that the reaction mixture comprises human immunoglobulins (IVIgs).

10 14. The method as claimed in one of claims 1 to 12, characterized in that it also comprises an ADCC assay.

15 15. The use of the method as claimed in one of claims 1 to 14, for selecting a chimeric, humanized or human monoclonal antibody capable of inducing the production of at least one cytokine selected from IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, TNF $\alpha$ , TGF $\beta$ , IP10 and IFN $\gamma$ , by a CD16 receptor-expressing effector cell.

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16. The use of the method as claimed in one of claims 1 to 14, for evaluating the production of MoAbs by transgenic plants or transgenic mammals.

25 17. The use of the method as claimed in one of claims 1 to 14, for selecting antibodies that are effective for a therapeutic treatment, in particular the treatment of autoimmune and inflammatory diseases, cancers and infections with pathogenic agents.

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18. The use of a chimeric, humanized or human monoclonal antibody that can be obtained from the method as claimed in one of claims 15 to 17, for preparing a medicament for inducing the production of  
35 at least one cytokine by an effector cell belonging to the immune system.

19. The use of a chimeric, humanized or human monoclonal antibody produced by cells of rat myeloma

lines, in particular YB2/0 and its derivatives, for preparing a medicament for inducing the production of at least one cytokine by an effector cell belonging to the immune system.

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20. The use as claimed in claim 19, for preparing a medicament for inducing the production of at least one cytokine selected from IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, TNFa, TGF $\beta$ , IP10 and  
10 IFN $\gamma$ , by a CD16 receptor-expressing effector cell.

21. The use of a chimeric, humanized or human monoclonal antibody having a glycan structure of the biantennary type, with short chains, a low degree of  
15 sialylation, nonintercalated terminal attachment point mannoses and GlcNAc, and a low degree of fucosylation, for preparing a medicament intended to induce the secretion of at least one cytokine by an effector cell belonging to the immune system.

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22. The use as claimed in claim 21, for preparing a medicament for inducing the production of at least one cytokine selected from IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, TNFa, TGF $\beta$ , IP10 and  
25 IFN $\gamma$ , by a CD16 receptor-expressing effector cell.

23. The use of a composition of antibodies having a glycan content of greater than 60%, preferably greater than 80%, for the G0 + G1 + G0F + G1F forms, it being  
30 understood that the G0F + G1F forms are less than 50%, preferably less than 30%, for preparing a medicament intended to induce the secretion of at least one cytokine by an effector cell belonging to the immune system.

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24. The use as claimed in claim 23, for preparing a medicament for inducing the production of at least one cytokine selected from IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, TNFa, TGF $\beta$ , IP10 and

IFN $\gamma$ , by a CD16 receptor-expressing effector cell.